

REMARKS

The claims remain 50 to 95.

The present amendment under Rule 116 amends Claim 50 to insert language suggested in the Official Action.

In addition, it is spelled out that the photocatalytic layers are “each made of a photocatalytic material”, basis for which is to be found in the disclosure taken as a whole and in the language “thin-film layers of photocatalytic material” as in paragraph [0012], page 4 of the specification, and note “thin-film layers of photocatalytic materials consisting of titanium dioxide” in paragraph [0033], page 7.

Claims 55 and 58 are rewritten to be in independent form.

The adjective “colored” is deleted from Claims 54, 57, 59, 60, 63, 64 and 69-95 as redundant.

THE CLAIMS REJECTIONS

Reconsideration and withdrawal of the rejection of Claims 50-56, 58, 61, 62, 65-71, 73, 76, 77 and 95 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regard as the invention are requested.

Claim 50 is here amended to incorporate the language suggested in the Official Action to remove the ambiguity found associated with “each smaller”. This language also appears in Claims 55 and 58, here rewritten to be independent. The remaining claims are dependent on those claims.

Concerning “lowermost” in Claims 61 and 62, asserted to be unclear, reconsideration is requested since Claim 50, from which 61 and 62 depend directly or indirectly, states “the thin-film photocatalytic layer nearest the substrate being the lowermost of said thin-film photocatalytic layers, the remaining layers being sequentially more distant from the substrate”. It is therefore clear in Applicants’ opinion, that the lowermost photocatalytic layer is indeed the one “nearest the substrate”.

Reconsideration and withdrawal of the rejection of Claims 50, 51, 53, 54, 56, 61, 62 and 95 under 35 U.S.C. § 103(a) as being unpatentable over Tabata et al. (5,407,738) are requested.

The subject claims are directed to a photocatalytic member having photocatalytic and color forming properties (underlined for emphasis).

The member is a substrate and a laminate thereon, “which laminate has a plurality of thin-film photocatalytic layers” here further amended for emphasis to recite “each made of a photocatalytic material”.

Tabata et al. (5,407,738) discloses no such layer. Tabata et al. rely on reflection and interference of natural light but they do not disclose, and in particular do not direct one to

employ photocatalytic thin-films or fins. Nor does the Official Action indicate where such photocatalytic materials or structures may be found in or suggested by the Tabata et al. disclosure.

Applicants employ photocatalytic thin-films, for reasons set forth in the first paragraph of the subject disclosure (underlining supplied):

[0001] This invention relates to a photocatalytic colored member that gives visual coloring effects by achieving the desired optical reflection/transmission characteristics through the interference or diffraction of light, and also has a photocatalytic effect which has the effect of decomposing organic material adsorbed to the surface of raw material with moisture or by irradiation of ultraviolet light the addition of moisture or irradiation with ultraviolet light.

The object of Applicants' invention is stated as follows on page 4 of the specification (underlining supplied):

[0011] Therefore, present invention has as its object to provide a photocatalytic colored member that has a photocatalytic effect higher than that of conventional materials, and can also maintain the desired clear color for the long term.

The problem of maintaining the desired clear color in structures subject to adsorption of organic material and/or moisture is not addressed by Tabata et al.

Hence, the structure disclosed by Tabata et al. differs greatly from and neither suggests nor possesses the properties of the structure here claimed.

Reconsideration and withdrawal of the rejection of Claims 52, 65-96, 71, 76 and 77 under 35 U.S.C. § 103(a) as being unpatentable over Tabata et al. (5,407,738) in view of Kumazawa et al. (6,248,436) are also suggested.

The reasons are as follows:

(1) As demonstrated above, it is not the fact that "Tabata et al. discloses all the limitations of the instant invention except for the plurality of thin-film photocatalytic layers made of titanium oxide";

(2) Tabata et al. states in the sentence at col. 4, line 35, and in the following sentences:

However, it is not preferable to use inorganic materials for the minute structure because it is difficult to accurately form the minute structure. Thus, a transparent or substantially transparent organic material so as to enable reflectance and interference of light, which has a refractive index ranging from 1.2 to 1.8, is used in the present invention. For example, polyester, polyacrylonitrile, polystyrene or the like is used for the minute structure material.

Clearly, use of titanium oxide, particularly anatase (refractive index 2.52), would be contrary to Tabata et al.'s teaching

(3) The use of granular material to increase scattering efficiency is not suggested by the Tabata et al. disclosure. Moreover, where more than one layer is present in the Kumazawa et al. structure, they are laminated alternatively, please see col. 8, line 4 of the patent. This is not the type of structure envisioned by Tabata et al. It would appear that the rationale for the combination is not based upon the referenced disclosures.

(4) Applicants at page 2, in the paragraphs [0004], [0005] and [0006] point to the deficiencies of particulate or pigment type photocatalytic materials. The subject claims have called for "thin-film layers of photocatalytic material", which in the context of the disclosure, and see also Claim 52 and original Claims 1 and 3, is not suggested by films pigmented with granular material as disclosed in Kumazawa et al., the possible photocatalytic properties of which are not employed by them.

Claims 55, 58, 70 and 73 would appear to be allowable since Claims 55 and 58 are now rewritten to be in independent form and Claims 70 and 73 are dependent thereon.

For the reasons given, entry of the amendment as raising no new issues and favorable reconsideration is solicited.

Respectfully submitted,

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